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NATURE-STUDIES WITH BIRDS FOR THE ELEMENTARY SCHOOL

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BIRD-PROTECTION

The necessity for bird-protection is shown in the results of an exhaustive inquiry made by Mr. William T. Hornaday, of the New York Zoölogical Garden.¹ He found that the decrease in bird-life in thirty states for the fifteen years previous to 1898 averaged 46 per cent. Nebraska showed the least decrease, with only ten per cent.; Florida the greatest, with 77 per cent. When we grasp the significance of these figures, we are appalled and at once seek the causes of this destruction. As soon as we learn the birds' enemies, we can begin to eliminate many of the causes of decrease and procure means for the reinstatement of our former feathered neighbors.

The best way to provide for the future is to teach the children the beauty of birds, and that they are not only harmless, but even of important economic value. Their worth as insect- and weed-destroyers will stimulate interest, especially if there is a garden where these pests are at work.

The lawmakers of the country have been made to realize the importance of protecting birds, and many laws have been passed imposing fines for killing birds and destroying nests and eggs. Unfortunately, it has not been possible to enforce these laws with enough rigidity to produce the desired effect. That further effort is necessary is obvious, and means that each and every one of us must be careful to live up to the letter of the law and use his influence on those with whom he comes in contact.

The subject of bird-protection brings forward the following questions: Why this absence of birds? How can we attract birds? How can we protect those already here? How can we best exert an influence on others?

¹ W. T. Hornaday, "The Destruction of Our Birds and Mammals," *Second Annual Report of the New York Zoölogical Society*, pp. 77-126.

I. REASONS FOR THE ABSENCE OF BIRDS

The following are factors which account for the decrease in the number of native birds:

1. Cats.
2. Destruction by children.
3. Collectors who shoot birds and take their eggs.
4. Killed for wearing on hats.
5. Trapped for sale alive.
6. Hunted for use as food.
7. Poisoned by chemicals used in gardening, e. g., paris green.
8. Birds — some hawks, owls, crows, cowbirds, and jays.
9. Snakes.
10. Feet of cattle.
11. English sparrow.
12. Squirrels.
13. Cold, wind, and rain.
14. Telegraph wires.
15. Lighthouses.
16. Drainage of marshes.
17. Clearing away of trees and building of houses.
18. Lack of food.
19. Lack of water for drinking and bathing.
20. Lack of nesting-places.
21. Non-enforcement of laws.

The above list is very suggestive, but does not by any means include all bird enemies. It is intended to designate the more important ones.

Cats are very destructive, and particularly so during the nesting season, when the young are learning to fly and are easily caught. At this time an active cat includes tender nestlings in her daily bill of fare.

Children, especially boys, are accustomed to find pleasure in shooting birds with sling or air-rifle, just to try their skill.

Collectors shoot birds for birdskins or take eggs, thus destroying thousands every season. Collecting is a fad with most boys, and when a child shows a desire for gathering together a lot of birdskins or eggshells, he should be shown the evil of his ways,

and his energy should be turned into other channels. Collections of skins and eggs are practically useless when they are kept locked away in dark drawers, and are of value only when on exhibition in public museums, where they are available for study.

Milliners supply a demand for birds as ornaments for hats, which is responsible for the devastation of vast colonies of nesting-birds. Of these the most abused is the snowy heron, whose plumes are commonly called "aigrettes." No woman would wear one of these plumes on her hat, if she knew the murder committed to obtain it. The heron is killed during the nesting season, which is the only time these plumes occur, and the eggs in the nest are left to spoil, or the young are left to starve. If women refused to wear feathers, the demand for them would cease, and no more would be sought.

Birds often turn upon members of their own tribe, and are responsible for considerable destruction. The hawks and owls prey upon smaller birds; the crows and jays are known to rob the nests of other birds; and the cowbird lays her eggs in other birds' nests, thereby preventing the successful rearing of the rightful owners. But by far the worst bird enemy is the English sparrow. This little pest, introduced from Europe, has proved to be a wolf in sheep's clothing. Brought into our country for its beneficial qualities, it has paid us for its protection by promptly driving away the robins, bluebirds, swallows, etc., and appropriating their nesting-sites in which to bring up its numerous progeny. It should be driven away from the homes of native birds, and every means possible should be used to hinder its increase.

*Squirrels*² have been known to destroy eggs and kill young birds. That they do much to harass our nesting birds is undoubtedly true, and we must choose between the squirrels and the birds.

Clearing away of trees and building of houses, and also the drainage of marshes, are factors in the decrease of bird-life, because they take away the nesting-sites and force the former inhabitants to go elsewhere to build houses.

² See Joseph Brunner, "The Devastating Squirrel," *Country Life in America*, Vol. VII, No. 3 (January, 1905), pp. 264-67.

II. HOW TO ATTRACT BIRDS

1. Provide nesting-places, such as bird-boxes,³ trees, bushes, etc.
2. Provide drinking- and bathing-places.
3. Put out food both winter and summer.
4. Drive out English sparrows.
5. Do not keep a cat.
6. Do not destroy nests or take eggs.
7. Do not use poison on garden vegetables.
8. Plant trees and bushes.
9. Provide nesting material.
10. Provide dust-bath.
11. Put out gravel and lime.
12. Hunt with a camera instead of a gun.

The bird-bath is an attraction without an equal, for birds need water, and will naturally build their nests where they can obtain it easily. There are a number of ways of providing them with drinking- and bathing-places. Where cats are common, the drinking-place should be situated above the ground, on a post or some other place where the birds are out of danger. Where there are no cats, the best bath is made on the ground. A hollow is dug three feet long and two feet and a half wide. This is lined with cobblestones laid in cement. When finished, it is three inches deep in the center and shallower toward the edges, so that birds of all sizes may bathe. If possible, the bath should be made near a water tap, where it can be filled easily and often. Bird-houses made of clay may also serve the purpose of drinking-cups, if a hollow is made in the top and kept filled with fresh water. Receptacles⁴ for water which are placed in the limbs of trees excite the least suspicion.

Feeding birds is often necessary when the natural harvest has disappeared with the clearing away of weeds and trees. In winter a piece of suet or bone will attract nuthatches and downy woodpeckers. An elevated board may be supplied with seeds of the sunflower, pumpkin, hemp, timothy, remains from the hay-

³ *Elementary School Teacher*, March, 1905.

⁴ Mrs. F. W. Roe, "Some Familiar Florida Birds," *Bird-Lore*, December, 1904.

loft, cracked nuts, meat, and suet, and thus become a larder which will serve as a magnet for almost every variety of bird in the locality.

Hunting birds with a camera has of late become the pastime of many a birdlover who has discovered the fascination of this difficult pursuit. A volume of directions could be written on the subject, but only enough can be given here to start anyone wishing to enter the ranks of the initiated and become a true bird-photographer.

Before even the camera is purchased, one must have three things to become a successful bird-photographer. He must have a love for birds, much patience, and an abundance of time. The camera is then procured from a reliable dealer. It must be of the long-focus variety which enables the photographer to take pictures within a foot of his subject. The lens must be of good make, and the shutter must have a speed of one twenty-fifth or one-hundredth of a second in order to take successful views of moving birds. The phases of bird-photography that will be discussed below are, first, photographing nests; second, photographing birds at their nests on the ground; third, photographing birds at their nests in trees. Only the principal features of the processes will be mentioned.

The photographing of nests is very simple. The nest must be well lighted, and a small stop must be used to secure good definition.

Photographing birds at their nests presents many difficulties. Birds have learned to fear the presence of man, and will not return to the nest when anyone is near. The photographer, therefore, must be able to make the exposure from a distance. The process is as follows: The camera is securely fastened from three to ten feet from the nest, according to the size of the bird which is to be photographed. A string is attached to the shutter release and passed along the ground several hundred feet to a convenient hiding-place. The shutter is then set, a plateholder inserted, and the photographer retires to his hiding-place at the end of the string. The nests act as a magnet to the parent birds, and they will brave the terrible camera so close to the nest, in order to protect their eggs or young. In the course of an hour or two,

the time varying greatly in different cases, the parent birds return to the nest. Then the string is pulled and a snapshot taken. Instead of a string, a long rubber tube with a bicycle pump on the end may be used. When the nest is in a tree, the camera is fastened to the limbs by straps and ropes, or by a clamp such as is used to fasten a kodak on the handle bars of bicycles.

The photographs of birds are not the most valuable results of bird-photography. It is impossible to keep watch hour after hour of a bird's actions while near its nest without learning something of vital interest about its home life, its food, its habits, and its song. And most valuable of all is the increasing love for all the feathered kind which must surely follow an intimate acquaintance with the most interesting and fascinating of all living creatures.

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